

IN THE CLAIMS

Claims 1-24 (Canceled).

Claim 25 (Previously Presented): A packet communication network that is connected to a first external network and a second external network, and that executes packet communication between the first external network and the second external network for a plurality of services of which quality requirements on an end-to-end basis are different, the packet communication network comprising:

a parallel network constituted by a plurality of physically or logically independent internal networks;

at least one classifier connected to the first external network and to each internal network, when classifying a packet to one of the internal networks in the parallel network, the classifier identifying a packet as a voice packet when a pair of a transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the internal networks; and

at least one multiplexer that prioritizes a packet received from the voice network over a packet received from other internal networks, the at least one multiplexer being connected to each of the internal networks in the parallel network and to the second external network and multiplexing packets received from a plurality of internal networks in the parallel network when outputting a multiplexed packet to the second external network.

Claim 26 (Previously Presented): The packet communication network according to claim 25, wherein the classifier classifies a packet according to a feature amount of a form of the packet.

Claim 27 (Previously Presented): The packet communication network according to claim 26, wherein the feature amount is a packet length of the packet.

Claim 28 (Previously Presented): The packet communication network according to claim 25, wherein the classifier classifies a packet according to a feature amount of contents of the packet.

Claim 29 (Previously Presented): The packet communication network according to claim 28, wherein the feature amount is a DiffServ code point of an IP packet.

Claim 30 (Previously Presented): The packet communication network according to claim 28, wherein the feature amount is any one of a protocol number of an IP packet, a destination port number of a UDP packet, and a destination port number of a TCP packet.

Claim 31 (Previously Presented): The packet communication network according to claim 26, wherein the classifier classifies the packet according to a time series change in a sum of data amounts of packets having an equal feature amount.

Claim 32 (Previously Presented): The packet communication network according to claim 28, wherein the classifier classifies the packet according to a time series change in a sum of data amounts of packets having an equal feature amount.

Claim 33 (Previously Presented): The packet communication network according to claim 25, wherein the classifier includes a detector that detects a status of traffic of each of

the networks in the parallel network, and classifies a packet according to the status of the traffic.

Claim 34 (Previously Presented): The packet communication network according to claim 25, wherein the networks in the parallel network are logically grouped into a plurality of groups so that each of the groups includes a plurality of networks that are physically same.

Claim 35 (Previously Presented): The packet communication network according to claim 34, wherein each of the groups includes a unit that dynamically changes an allocation of bands to each of the networks in the group.

Claim 36 (Previously Presented): The packet communication network according to claim 25, wherein the multiplexer preferentially processes a packet received from a specific one of the networks in the parallel network.

Claim 37 (Previously Presented): The packet communication network according to claim 25, wherein the multiplexer preferentially processes a packet having a predetermined feature amount.

Claim 38 (Previously Presented): A packet communication method, realized on a packet communication network with a plurality of internal networks in a parallel network that is connected to a first external network and a second external network, executing packet communication between the first external network and the second external network,
the packet communication method comprising:

a classifier, connected to the first external network and to each of a plurality of internal networks, the plurality of internal networks being physically or logically independent and in a parallel network, classifying a packet received from the first external network to one of the plurality of internal networks in the parallel network, the classifier identifying a packet as a voice packet when a pair of a transmission source address and a destination address as well as a destination port number are equal to a pair of addresses between which a conversation is held by a voice service and classifying the voice packet to a voice network among the plurality of internal networks in the parallel network;

the one of the internal networks in the parallel network that the classifier classified the packet to transferring the packet; and

a multiplexer, connected to each of the plurality of internal networks in the parallel network and to the second external network, multiplexing packets received from two or more internal networks in the parallel network and outputting a multiplexed packet to the second external network.

Claim 39 (Previously Presented): The packet communication method according to claim 38, wherein the classifier classifies a packet according to a feature amount of a form of the packet.

Claim 40 (Previously Presented): The packet communication method according to claim 39, wherein the feature amount is a packet length of the packet.

Claim 41 (Previously Presented): The packet communication method according to claim 38, wherein the classifier classifies a packet according to a feature amount of contents of the packet.

Claim 42 (Previously Presented): The packet communication method according to claim 41, wherein the feature amount is a DiffServ code point of an IP packet.

Claim 43 (Previously Presented): The packet communication method according to claim 41, wherein the feature amount is any one of a protocol number of an IP packet, a destination port number of a UDP packet, and a destination port number of a TCP packet.

Claim 44 (Previously Presented): The packet communication method according to claim 39, wherein the classifier classifies the packet according to a time series change in a sum of data amounts of packets having an equal feature amount.

Claim 45 (Previously Presented): The packet communication method according to claim 41, wherein the classifier classifies the packet according to a time series change in a sum of data amounts of packets having an equal feature amount.

Claim 46 (Previously Presented): The packet communication method according to claim 38, wherein the classifier detects a status of traffic of each of the networks in the parallel network, and classifies a packet according to the status of the traffic.

Claim 47 (Previously Presented): The packet communication method according to claim 38, wherein the networks in the parallel network are logically grouped into a plurality of groups so that each of the groups includes a plurality of networks that are physically same.

Claim 48 (Previously Presented): The packet communication method according to claim 47, wherein each of the groups includes a unit that dynamically changes an allocation of bands to each of the networks in the group.

Claim 49 (Previously Presented): The packet communication method according to claim 38, wherein the multiplexer preferentially processes a packet received from a specific one of the networks in the parallel network.

Claim 50 (Previously Presented): The packet communication method according to claim 38, wherein the multiplexer preferentially processes a packet having a predetermined feature amount.